DETAILED ACTION

Receipt of preliminary amendment to claims, dated 10/17/2005 is acknowledged.

Election/Restrictions

Claims 29-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups **II** and **III**, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/2/2008.

Claim Objections

Claims 1, 3-8, 10, 14-16, and 22-24 are objected to because of the following informalities: no antecedent basis for several introduced features, as follows:

1: rotary seals, small outside diameter, tube-to-shaft fit, the seals inside said stuffing box.

3: tubing/ sleeve

4: gasket

5: gasket, the respective oil seals

6: inlet hole, tube/rotating sleeve, inner seat.

7: packing, rotating sleeve.

8: packing, tube/rotating sleeve, axial thrust assembly.

10: skirt, top cover.

14: connection tongue

15: pre-loading spring

16: liquid lubricant inlet hole

22: cover

23: cover

24: tighten-down screw

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation of the diameter of the tube/ sleeve is indefinite, since according to claim 1, the tube/ sleeve has two different diameters, so examiner is unable to determine which diameter applicant is referring to.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 7-13, 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hult, PG Pub 2001/0050168.

Hult teaches a pump drive head 18 with an integrated stuffing box 5 comprising: a power transmission 76 coupled to a rotating pump drive shaft 26; a stuffing box 5; a thrust assembly 90 to take tensile force; wherein power

transmission 76 comprises a tube 92 and 110 to be rotated coaxially with the shaft 26 having two different diameters- where diameter of 110 is larger than diameter of 92 portion-, which is connected at its bottom end to a sleeve 80 for rotation, wherein rotary seals 116 fit over the smaller diameter of the tube to establish fluid seals between the tube and stuffing box, the outside diameter of the seals smaller than the larger outside diameter of the tube, and wherein the tube-to shaft fit has static seals 126, in which the seals are adapted, by virtue of a retainer ring that is the top seal 126 , to come away with the tube; a rotary gasket 120 provided on the bottom end of the tube, with outside diameter a labyrinth pattern paragraph [0045]: 9; packing 116 is mounted on rotating sleeve around the small diameter, held by at least one axial retainer ring that is the lowest ring of 116; with at least one detent ring 239 and a pre-loaded spring 118 between packing 116 and retainer ring and thrust assembly 90; static seals 126 placed in the joint region between the tube and sleeve and compressed to make a tight seal within a skirt of a top cover 122; the tube is connected to the thrust assembly by a rotating hub 76 held in place by a tighten-down means 84 that is guided by roller thrust bearing 90 and bell 56 enclosing the hub and bearing. Hult also teaches a clamp 160 with self-centering jaws 170 within the stuffing box, to grip the shaft 26 in a wedge contact with a tighten-down screw 176, the wedge contact is achieved by a conical taper surface 172; radial gripping movement of the jaws are guided by a prismatic fit of the clamp housing 162; elastic means 174 mounted between the jaws to open them when clamping action is released;

the shaft gripping surfaces are semicircular along 172 about a center that is offset from the shaft centerline towards the opposite jaw, shown in Fig 18, where only one jaw is engaged, and the second jaw 182 is offset from the centerline of shaft 26.

2. Claims 1, 2, 4-6, and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ricalton, et al. US5791411.

Ricalton, et al. teaches a pump drive head with an integrated stuffing box 1comprising: a power transmission that rotates the rod 39, as described in the Abstract, coupled to a rotating pump drive shaft 39; a stuffing box 1; a thrust assembly 13 to take tensile force; wherein power transmission comprises a tube 11 to be rotated coaxially with the shaft having two different diameters with the larger diameter at top at 11b and the smaller diameter below along reference number 8, which is connected at its bottom end to a sleeve 6 for rotation, wherein rotary seals 42 fit over the smaller diameter of the tube to establish fluid seals between the tube and stuffing box, the outside diameter of the seals smaller than the larger outside diameter of the tube, and wherein the tube-to shaft fit has static seals 8, in which the seals are adapted, by virtue of a retainer ring 27, to come away with the tube; a gasket 26 connected to the retainer ring of the seals on the sleeve; an outside-communicated tapping hole see Fig A below downstream of the gasket and the seals; rotary seals include packing seals 32, oil seals 29 downstream of the rotary seals and inlet hole, with packing mounted between the tube and inner seat of the stuffing box; static seals are in the joint region between

tube 11 and sleeve 6 and compressed to make a seal in the skirt of the top cover that is along 2; the tube is connected to the thrust assembly for rotation by rotating hub 20 held in place by tighten-down means 11a in the upper portion of the drive housing with a roller thrust bearing and bell 5 to enclose the hub and bearings.

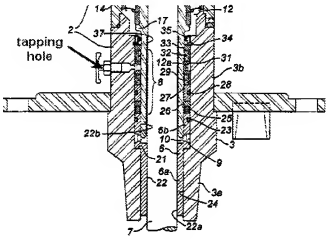

Fig A: taken from Ricalton, et al. Fig 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hult.

Hult teaches all of the elements of claims 1 and 11, and a rotary connection between drive gear 76 and tube 94, but is silent as to what mechanism is used to connect the drive gear and tube for rotation, thus does not teach the hub with an inside diameter with an axial slot for pulling out a connection tongue between the tube and drive. Examiner takes Official Notice that tongue connections as a means to connect a shaft with a rotation source are well known in the art, and that it would have been obvious to a person having ordinary skill in the art at the time of the instant invention to modify Hult such that a connection tongue/ Key is used to connect the shaft with the rotation source, with the housing having a slot such that the tongue/ key can be inserted or removed.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hult in view of Ricalton, et al.

Hult teaches all of the elements of claims 1 and 8, but does not teach a ring spacer in the stuffing box with a liquid lubricant inlet hole. Ricalton, et al. teaches a ring spacer 31 within a stuffing box 1 that has a liquid lubricant inlet hole 12a. It would have been obvious to a person having ordinary skill in the art at the time of the instant invention to modify Hult in view of Ricalton, et al. to use

the ring spacer with a bore in it in the oil seal stack, such that lubricant oil can be injected into the seal stack.

5. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hult in view of Ricalton as applied to claim 16 above, and further in view of Dollison US 3491831.

Hult in view of Ricalton, et al. teaches all of the elements of the previous claims, but does not teach a bored ring spacer with an annular seat with a lip. Dollison teaches a spacer 392 with an annular seat with a lip 372, with an axial middle ledge 381 on a ring spacer. It would have been obvious to a person having ordinary skill in the art at the time of the instant invention to modify Hult in view of Ricalton, et al., further in view of Dollison to use a spacer ring with a lip to prevent the seals and the spacer from moving past the spacer ring.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hult.

Hult teaches all of the elements of previous claims and a gasket 120 with a labyrinth pattern Paragraph [0045]: 9 at the bottom end of the sleeve, but is silent as to whether the labyrinth pattern is on the inside or outside diameter of the gasket, and thus does not teach the gasket with a labyrinth pattern on its inside diameter, or the gasket keyed to the bottom end of the sleeve. The examiner takes Official Notice that it is well known in the art to switch the sides of the location of a feature on a part, and that it is well known in the art to use a key to connect two rotating parts, and it would have been obvious to a person having ordinary skill in the art at the time of the instant invention to modify Hult such that

the labyrinth pattern is on the inner diameter, to trap contaminants along the surface of the tube/ sleeve, and to use a keyed connection between the sleeve and the gasket, so that the sleeve and gasket will rotate together.

7. Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hult in view of Purtle, US1630863.

Hult teaches all of the elements of previous claims, and a shaft locking clamp 160 with a stem 176 that is cylindrical and fits through a seal, as shown in Fig 14 with dark regions along step 176, on the cover 162, with guide and elastic bias member 174 between one jaw 170 and the cover on the opposite side of 170. Hult does not teach the shaft locking clamp with a pair of jaws, one that pushes and one that pulls, operated through a screw that acts on the push jaw and is engaged in a threaded hole of the pull jaw. It would have been obvious to a person having ordinary skill in the art at the time of the instant invention to modify Hult in view of Purtle to use an art recognized equivalent means of clamping a tubular, as described by Purtle, such that only one side of the clamp needs to be tightened down to provide clamping force on the tubular.

Allowable Subject Matter

Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dietle, et al. teaches a rod seal cartridge for a rotating pump rod. Hall, et al. teaches a rotating stuffing box for a rotating pump rod. Lam, et al. teaches clamps for locking a rod in a stuffing box. Wright, et al. teaches a pump rod drive inserted into a stuffing box. Hult, et al. '931 teaches a drive adapter for a pump drive in a stuffing box. Andoline teaches split casing for a spring.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CATHLEEN R. HUTCHINS whose telephone number is (571)270-3651. The examiner can normally be reached on Mon thru Thurs 7:30-5, alternate Fri 7:30-4 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CRH/
6/16/2008

/Kenneth Thompson/
Primary Examiner, Art Unit 3672